



# COMMUNICATIONS TOWER

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BEDFORD PUBLIC WORKS

# CROSBY DRIVE WATER TANK

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- ❖ 1 million gallon tank constructed in 1964
- ❖ 112 feet high, 42 foot diameter
- ❖ 4 Cellular carriers are located on the tank
- ❖ Town Public Safety antennas also on tank
- ❖ Consent Order - Rehabilitation

# WATER TANKS - EPA

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*“Finished water storage facilities are an important component of the protective distribution system barrier that prevents contamination of water as it travels to the customer. Historically, finished water storage facilities have been designed to equalize water demands, reduce pressure fluctuations in the distribution system; and provide reserves for fire fighting, power outages and other emergencies. Many storage facilities have been operated to provide adequate pressure and have been kept full to be better prepared for emergency conditions.”*

# CO-LOCATION

## PROS

- Revenue source
- Established site

## CONS

- Maintenance
- Structural issues
- Improper installation
- Tank corrosion
- Accessibility

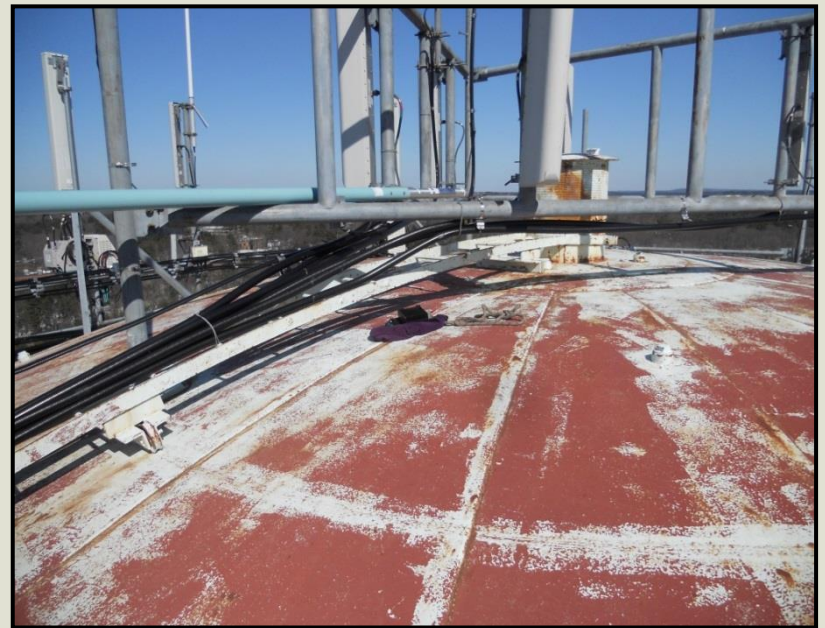
# CONSENT ORDER

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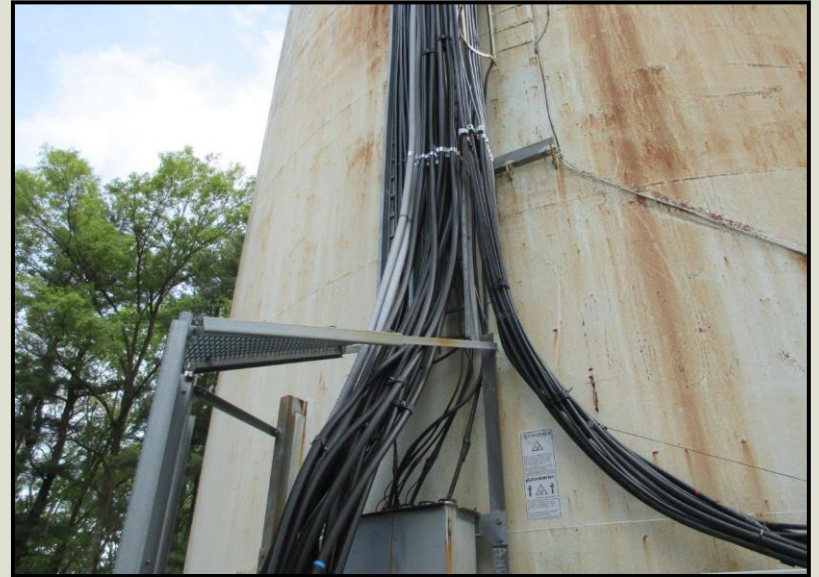
## Item 8 – Rehabilitation of Crosby Drive Standpipe

*The rehabilitation of the Crosby Drive Standpipe is not directly related to the water quality issues, but it is related to the overall condition of the distribution system, which was a subject of the November 2012 report. DPW will pursue resolution of the issues associated with moving the communications antennae onto the proposed new monopole. Following that work, design and bidding of tank rehabilitation can proceed. The goal is to complete the rehabilitation in summer 2015*















# PROJECT FUNDING

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- ❖ \$150,000 approved at 2008 ATM as part of Capital Project 09-17
- ❖ \$260,000 approved at 2009 ATM – Capital Project 10-22 for cleaning/painting of Crosby Drive Water Tank
- ❖ \$170,000 approved at 2015 ATM – Article 12

REVENUE THIS YEAR = \$151,300

# SPECIAL PERMIT

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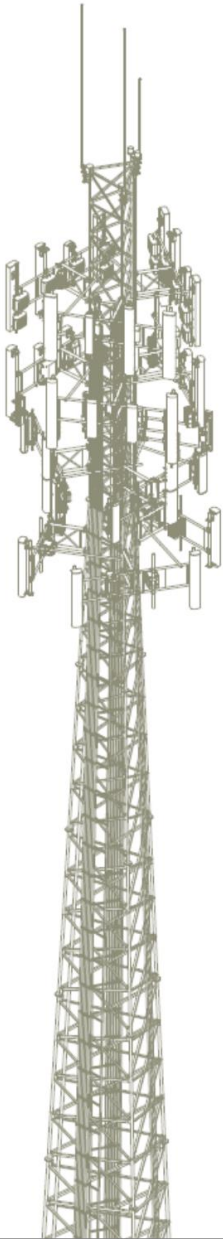
## TOWN BY-LAW

- ❖ Height – 125'
- ❖ Type – Monopole
- ❖ Setback

## APPLICATION

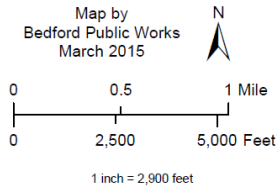
- ❖ Height – 220'
- ❖ Type – Lattice
- ❖ Setback – Collapse upon itself

Federal Aviation Regulation (FAR) Part 77 and Federal Aviation Administration (FAA) Advisory Circular 70/7460-1



## Proposed Cell Tower Bedford, MA

Map by  
Bedford Public Works  
March 2015



The information displayed on this or any other map produced by the Town of Bedford is for reference purposes only. The Town of Bedford does not guarantee the accuracy of the data. Users are responsible for determining the suitability for their own individual needs.

All information is from the Town of Bedford's Geographic Information System (GIS) database. Any questions or concerns should be addressed to the Town GIS Analyst.

Proposed Cell Tower Site  
38 Crosby Drive  
Coordinates (NAD83)  
71°14'46"W 42°30'42"N  
Elevation (NAVD88)  
222 feet

Hanscom AFB and Hanscom Field  
Coordinates (NAD83)  
71°17'00"W 42°28'36"N  
Elevation at end of runway (NAVD88)  
120 feet

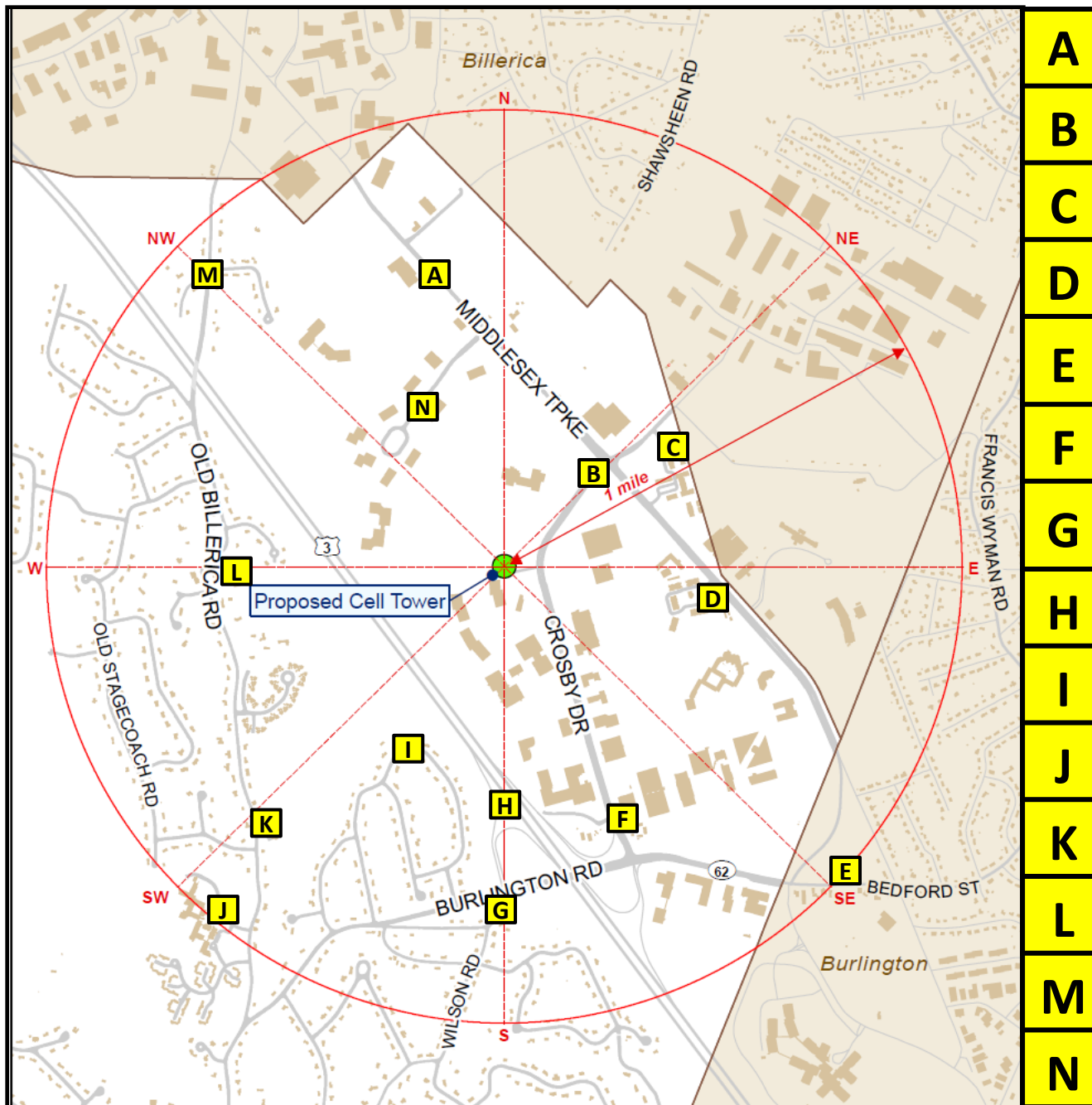
Distance from Proposed Site to Nearest Airport	Elevation Difference	Slope of Surface
16,290 feet	102 feet	0.006, or 160:1

# FAA/FCC FILING

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc.

- ❖ HEIGHT
- ❖ HAFB
- ❖ DISTANCE:SLOPE RATIO
- ❖ SIGNAL RECEPTION





**A**

122 MIDDLESEX TURNPIKE

**B**

45 CROSBY DRIVE

**C**

2000 TAYLOR POND LANE

**D**

49 MIDDLESEX TURNPIKE

**E**

MITRE PARK - BEDFORD STREET

**F**

9 CROSBY DRIVE

**G**

140A OLD BURLINGTON ROAD

**H**

ROUTE 3S – EXIT 26

**I**

30 MEADOWBROOK ROAD

**J**

106 OLD BILLERICA ROAD

**K**

14 SHIRE LANE

**L**

48 MITCHELL GRANT WAY

**M**

ROUTE 3 OVERPASS – OLD  
BILLERICA ROAD

**N**

8 OAK PARK DRIVE





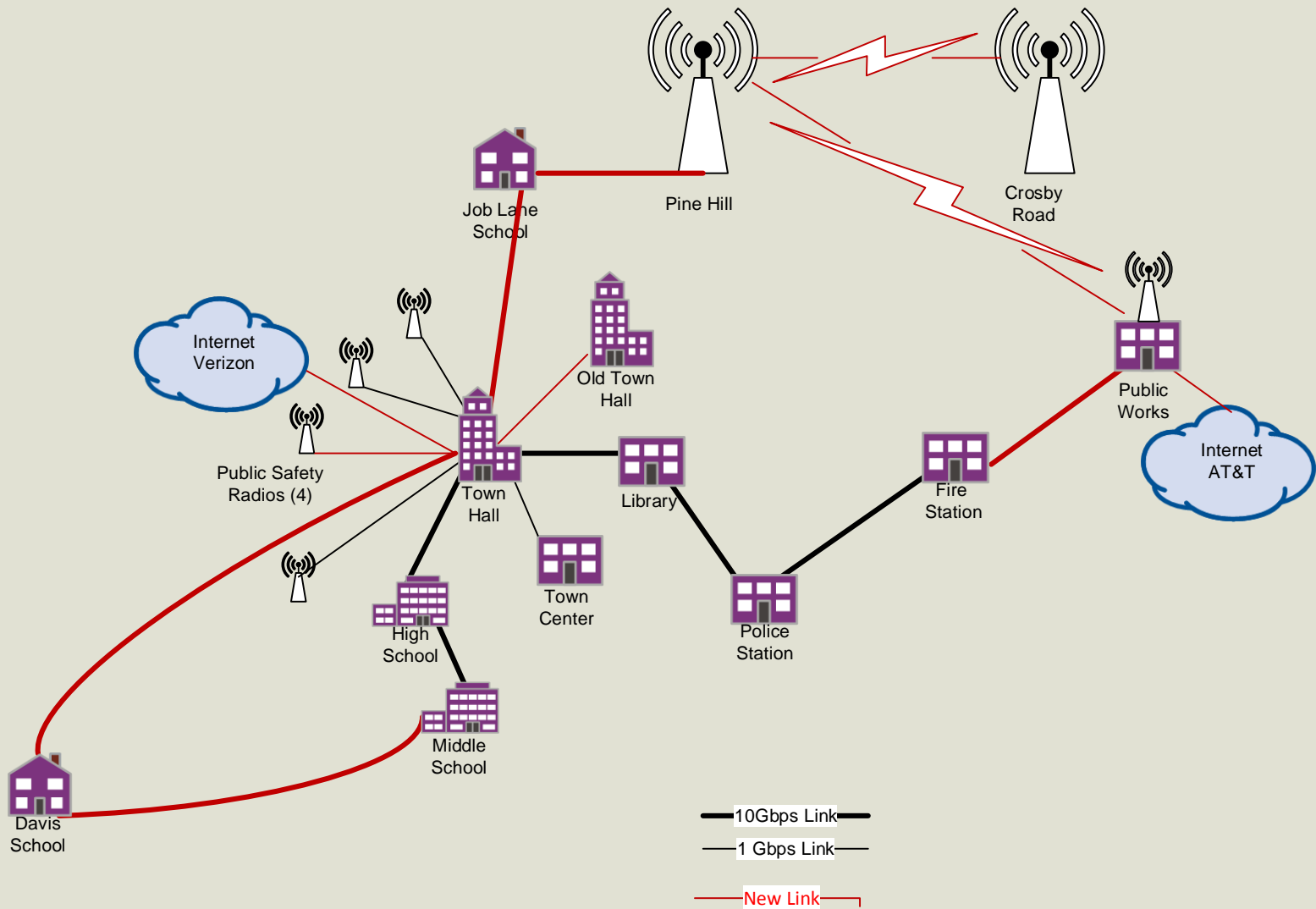
# **BURLINGTON**

## **Blanchard Road**

- ❖ Height – 135'
- ❖ Type – Lattice
- ❖ On town property
- ❖ Privately owned
- ❖ Under land lease



# COMMUNICATIONS STUDY



# CONCLUSION

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This is an important project for the Town of Bedford. The Public Works Department under both an administrative consent order as well as safe practices for a PWS must restore and repaint the Crosby Drive Water Tank. This is an opportunity to remove the communications equipment for good and build a structure more applicable that will also allow and extend coverage for its public safety radio network. The revenue currently collected should increase immediately as this is a primary location for communications equipment in this area. That revenue will pay back the project in a short period and guarantee funding for maintenance of the facility. Public Works, Fire, Police, and Facilities Departments strongly endorse this project.